ID	Requirement	Related Use Case	Fulfilled By	Tested By	Description
1	The menu has three options: new session, session log, and a date and time setting.	0	Mainwindow	Compile, Run, and see the menu	A user interface was made in QT that included this menu.
2	Pressing the new session option opens a timer that begins once contact is initiated, indicated by the blue light on the device.	0, 2	Device, mainwindow	Clicking new session, then clicking contact	When the new session menu item is selected, the device checks for headset contact. Only once headset contact is established, the user can start the session. The *Device* class has a *QTimer*. When the session starts, the timer counts down and the progress bar increments until session completion.
3	Realistic EEG signals are generated and displayed.	N/A	Mainwindow SignalGenerator EEGSite	Clicking new session, then clicking contact	The EEG signal is generated/emitted by the *SignalGenerator* class, the signal is made by adding 4 sine waves of the 4 frequency bands(delta,theta,alpha,beta) together. It is then received by a slot in *MainWindow* to plot the signal using *QChart's* line series.
4	If contact is lost, the red light flashes, the session is paused and the device starts beeping until contact is reestablished. If contact is not reestablished after 5 seconds, the device turns off automatically and the session is erased.	0, 2, 5	Mainwindow Device	Clicking new session, then clicking contact, then clicking contact again	The *Device* class uses *QTimer's* one shot that runs a function after 5 seconds to check if there is no contact, if so it stops the session, and powers off the device.
5	The timer shows approx. time remaining and session progress bar indicated by a percentage.	0, 2	Mainwindow Device	Clicking new session, then clicking contact	Every round during the session, the *Device* class calls a *MainWindow* function to update the session timer and

					progress bar.
6	The user can press pause voluntarily during a session. If after 5 seconds contact is not reestablished, the session is terminated and the device turns off automatically.	0, 2, 5	Mainwindow Device	Clicking new session, then clicking contact, then clicking pause, then observing what happens after unpausing and what happens after pausing and not unpausing	Pausing the session in the *Mainwindow* UI calls a function in *Device* that pauses the session. If the Contact button is clicked during this time, a timer in the *Device* class checks after 5 seconds to see if the contact has been reestablished. If not, then the session is stopped and the device is turned off (all device UI components are disabled).
7	The user can press stop voluntarily during a session. The session is terminated and no data is saved.	0, 2, 6	Mainwindow Device	Clicking new session, then clicking contact, then clicking stop	Stopping the session in the *Mainwindow* UI calls a function in *Device* that stops the session and turns off the device (all device UI components are disabled).
8	Pressing [the session logs] button displays the time and date of the sessions and the user can scroll through them, although no further information is provided on the device itself.	0, 3	Mainwindow Device	Clicking the session log button	When the session logs menu item is selected, the *Device* populates the log date and time list to show in the *mainwindow* UI.
9	When the session is completed, before and after baselines are recorded and can be uploaded to a PC with the date and time log information.	0, 2	Device	Completing a session, then clicking computer view and seeing the session that was just created	Once a session is completed, the *Device* class records the results (date and time, before and after treatment baselines) into the ~/Medical_Records/sessionrecords.txt file. When
10	The baselines show the before and after dominant average frequencies for each EEG site, taken during the overall baselines at the beginning and end of	0, 1	Mainwindow Device	Clicking connect PC. In Computer view, clicking the dropdown to select a log and see its	The *mainwindow* class has a button that allows the user to enable the computer view as if they connected the device. Once enabled, the *Device* populates lists for the

	the session, compared side by side as a numerical value.			details underneath.	dropdown and the detail display to show in the *mainwindow* UI.
11	The user inputs the current date and time so the device clock can accurately track the sessions.	0, 4	Mainwindow Device	Clicking set time and date, inputting the desired time and date, and clicking submit.	The *mainwindow* class allows the user to edit the date and time using the *QDateTimeEdit*. When the user presses the Submit button, the current time is set to the QDateTime value in the *Device* class.
12	The device establishes a baseline average frequency over the period of 5 seconds and then delivers the treatment in 1 second according to the LENS protocol to each site.	0, 2	Device EEGSite SignalGenerator	Clicking new session, then clicking contact to run a session.	The *Device* class has a *QTimer* which advances the session through each round, and treats each site.For the treatment, it adds an offset frequency of 5hz (increments by 5hz each round to 20hz) to the dominant frequency every 1/16th of a second for one second in the *EEGSite* class using the *QTimer*. It applies the offset by changing the frequency of a *SignalGenerator* so it emits the treated signal.
13	The green light flashes when the treatment is being delivered.	0, 2	Mainwindow Device	Clicking new session, then clicking contact to run a session.	When the treatment rounds are delivered in *Device*, the treatment indicator color is repeatedly set and unset to simulate light flashing in *mainwindow*.
14	The device simulation can be turned on and off, disabling normal device functionality when the device is off.	0	Mainwindow Device	Clicking the on/off button to toggle the device between on and off.	The on/off button in *mainwindow* acts as an on button when the device is off, and as an off button when the device is on. The device power status is stored in the *Device* class.
15	Session log information is stored in persistent storage.	N/A	Device	Closing the simulation and running the program. Clicking the	Once a session is completed, the *Device* class records the results (date and time, before and after treatment

				connect with PC button or clicking the device on button then clicking Session Logs.	baselines) into the ~/Medical_Records/sessionrecords.txt file.
16	The battery depletes during a session. Running around 3 treatments fully depletes the battery.	2	Device Mainwindow	Clicking new session, then clicking contact to run a session.	The *Device* class depletes the battery every second during a session, and reflects this change in battery in the *mainwindow* UI.